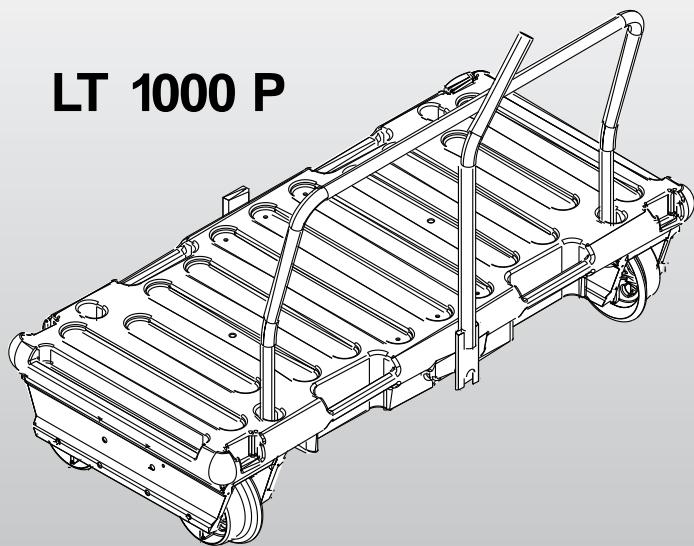


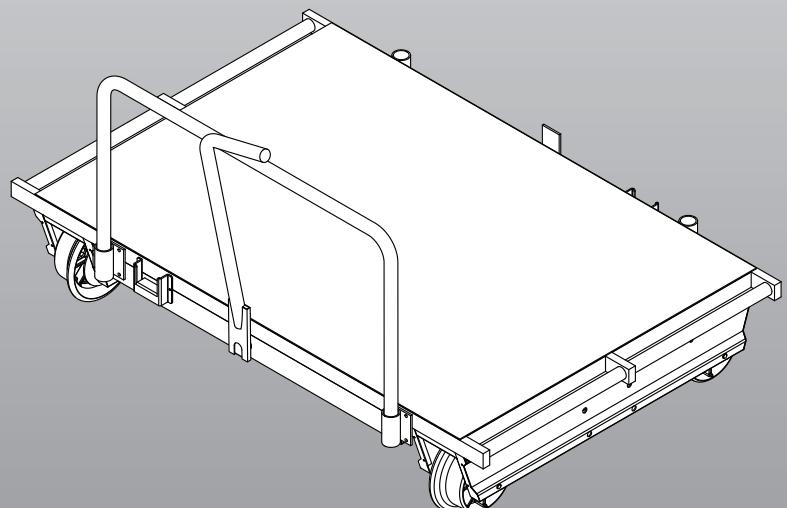
# trakrat®

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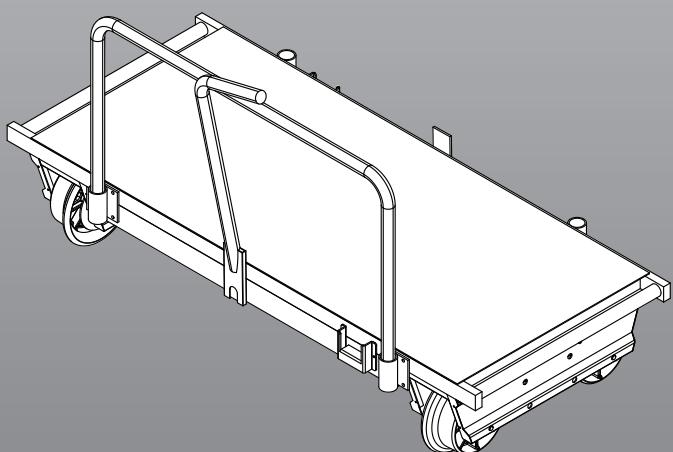
**LT 1000 P**



**LT 1500A**



**LT 1250A**



**trakrat® Link-Trolley**

**Instruction Manual**

CE

## Thank you for purchasing a trakrat® Link-Trolley

Before using this equipment and to avoid personal injury, carefully read and understand these instructions. If there is anything you do not understand, DO NOT use this equipment, contact your supplier for advice. Regular inspection, servicing and periodic maintenance will ensure many years of trouble free operation.

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## trakrat® Link-Trolley

### INTRODUCTION

### DESCRIPTION

The trakrat® Link-Trolley is a portable link trolley for use on rail infrastructure.

Polymer Link Trolley, TR I000 P : Constructed from Polypropylene and aluminium to give a combination of strength with minimum weight.  
NB: Please note that local practice may limit the SWL capacity to 1000Kg

Model Number	Description	Capacity (kgs)	Deck (mm)	
LT I000 P	Link Trolley I000 Plastic	I000	800 x I750	
LT I250 A	Link Trolley I250 Aluminium	I250	750 x I800	
LT I250 A - I	Link Trolley I250 Aluminium - Insulated	I250	750 x I800	
LT I250 W	Link Trolley I250 Wood	I250	750 x I800	
LT I250 W - I	Link Trolley I250 Wood - Insulated	I250	750 x I800	
LT I500 A	Link Trolley I500 Aluminium	I500	II50 x I800	
LT I500 A - I	Link Trolley I500 Aluminium - Insulated	I500	II50 x I800	
LT I500 W	Link Trolley I500 Wood	I500	II50 x I800	
LT I500 W - I	Link Trolley I500 Wood - Insulated	I500	II50 x I800	

The trakrat® Link-Trolley comprises of a deck and two bogies. Both bogies are detachable to enable the users to transport the trakrat® Link-Trolley manually over reasonable distances where access by vehicular transport is not an option

The trakrat® Link-Trolley is fitted with a unique disc brake system which increases braking efficiency and reduces wheel damage associated with traditional block brakes.

An additional version is available with wheels isolated from the main bogie for use on underground rail systems.

## DISCLAIMERS

Due care has been taken in the publication of this User /Operator Manual, but it is intended as a guide only.

The information and instructions included in this manual are provided to help you get the best possible service from your trakrat® Link-Trolley.

Users are reminded of their individual responsibility to ensure health and safety at work and their duty under current Health and Safety Legislation.

No warranties are implied or offered in relation to this manual, its content or use and Wolfe Designs Ltd. accept no liability whether actual or consequential arising from its use, or that its use alone is sufficient to ensure the safety of those so engaged.

Your statutory rights remain unaffected.

Wolfe Designs Ltd operate a policy of constant improvement and reserve the right to change specifications without notice.

Wolfe Designs Ltd. reserve the right to alter/delete or make additions to this manual without notice at any time as is deemed necessary.

## SECTION 2

### SAFETY

To ensure that the trakrat® Link-Trolley is used safely and responsibly, we strongly recommend that this manual is read by all users prior to operating the trakrat® Link-Trolley, and that the recommendations are followed at all times.

Make sure you are aware of all safety requirements and that this equipment is suitable for the task you wish to undertake.

This equipment must not be moved, set up, used or dismantled by persons who are under the influence of alcohol or drugs. Do not use this equipment if you are tired or unwell.

Test brakes in accordance with brake test procedure as published.

Always read and follow the safety information found on the details fitted to the trakrat® Link-Trolley.

Be aware of trap hazard between 2 linked trolleys.

Use red indicator lights where required.

Do not overload the platform beyond the stated weight loading for the model you have and ensure that you secure any load adequately.

Wear the correct Personal Protective Equipment for the task you are performing.

Do not wear loose jewellery or clothing that may get in the way or become trapped in the mechanism.

Inform everyone in the work area of what you are doing.

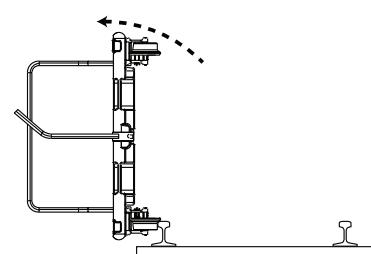
Carefully inspect the trakrat® Link-Trolley during and after assembly and before each work session, if there is any doubt about its condition, DO NOT USE IT.

A competent person should remain close by whenever the equipment is being used, in case of an emergency.

It is the responsibility of all user's to carry out a full risk assessment and ensure that a safe working environment is created and secured with safe working practices before using the trakrat® Link-Trolley.

### EMERGENCY OFF-TRACKING

To off-track in an emergency requires two people. Each person should grasp the lifting handle from one side of the unit and raise so that the bogie on the other side is used to pivot the trakrat® on the track.



### Your risk assessments must include, but are not limited to:

- Manual Handling
- Safe Working Conditions
- Safe Operation
- Safe and Secure Transportation

The trakrat® Link-Trolleys must only be used by authorised personnel, suitably trained in their use and deployment.

Where needed it is the operator's responsibility to ensure all necessary Permits/permissions or authorisations are in place prior to using this equipment on the infrastructure.

# trakrat® LINK TROLLEY RISK ASSESSMENT

Issue 1 Dated: 2007

## PURPOSE

This document is intended to provide an assessment of the hazards and risks involved to the user(s) of the trakrat® Link Trolley.

This document does not replace trakrat® Link Trolley user manual which is required reading for any user(s) whom will additionally require training to perform the safe deployment and use of this machine in accordance with BSEN I3977:2005(E).

## TASK

Deployment / Use of the trakrat® Link Trolley

## GENERAL SAFETY

Operatives must be fully trained in all aspects of the trakrat® Link Trolley including:  
Assembly/lifting/use/maintenance/personal protection equipment.

Prior to use: Consult the manual

Confirm brake test labels are within date (each bogie has an independant brake test label)

Ensure correct assembly

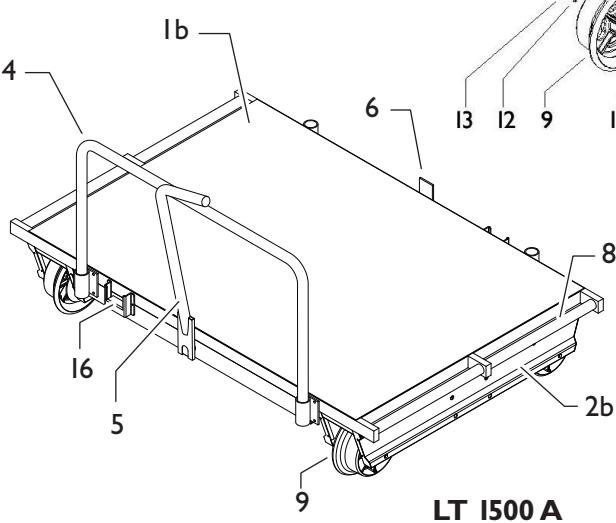
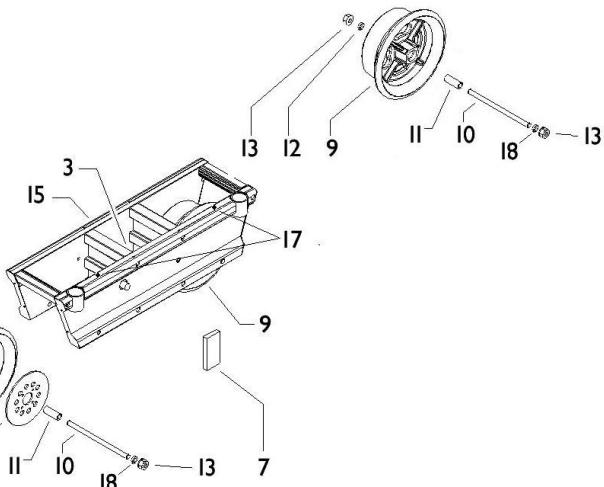
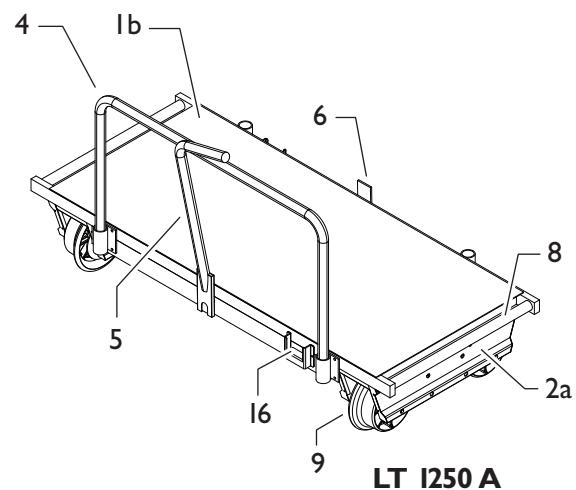
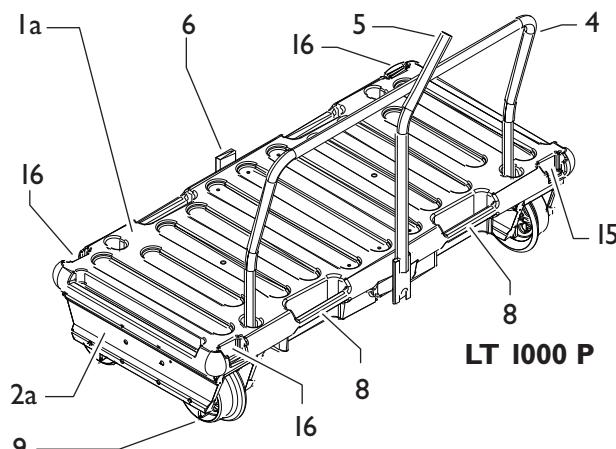
Note that bogie/trolleys labelled for use on LUL (London Underground) must NOT be used on Network Rail. Bogie/trolleys labelled Network Rail must NOT be used on LUL London Underground)

HAZARD	RISK	SOLUTION
Incorrect assembly	Personal injury	Check correct assembly
Lifting assembled trolley	Personal injury	Minimum 3 man lift or 4 man lift for the LT1500A. Where possible remove bogies and lift components separately.
Maneuvering	Personal injury to self or others	Ensure safe and proper access
Dropping	Personal injury to self or others	Ensure conditions underfoot are viable and min 3 man lifts , 4 man lift for LT1500A
Overloading / Uneven Loading	Personal injury and damage to the trolley	Observe load limits
Overhanging loads	Injury to self and others plus damage to the infrastructure	Exercise caution and never allow overhanging loads to under hang the deck
Brake failure / Runaway	Injury to self and others plus damage to infrastructure	Check and maintain the brakes Never tie off failsafe braking devices
Tripping	Personal injury	Walk at a proper pace for the prevailing conditions
Transport / Storage	Personal injury to self or others	Ensure all components are properly stacked and secured

## SECTION 3

### KNOW YOUR trakrat® LINK-TROLLEY

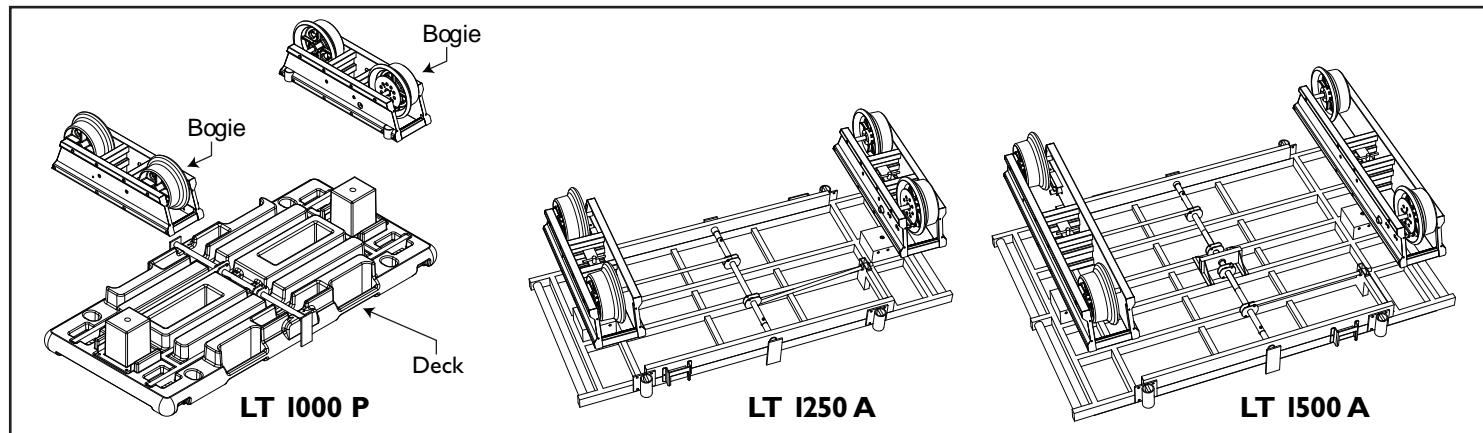
- Ia. Deck Polymer
- Ib. Deck Aluminium 750mm
- Ic. Deck Alluminium 1150mm
- 2a. Bogie (750mm)
- 2b. Bogie (1150mm)
- 3. Locking Hand Wheel
- 4. Push Handle
- 5. Brake Handle
- 6. Brake Pivot Plate
- 7. Trolley Coupling Cap
- 8. Lifting Handle
- 9. Wheel
- I0. Axle
- II. Spacer (Large)
- I2. 19MM Nylon Washers x 2 (On inside of box section)
- I3. M12 Nylok Nut
- I4. Standard Disc
- I5. Bogie Body
- I6. Warning Light Holder
- I7. Bogie Anti Skew Receptacles
- I8 . M12 Washer



## SECTION 4

### ASSEMBLING THE trakrat® LINK-TROLLEY

Position the deck upside down on a firm level surface.

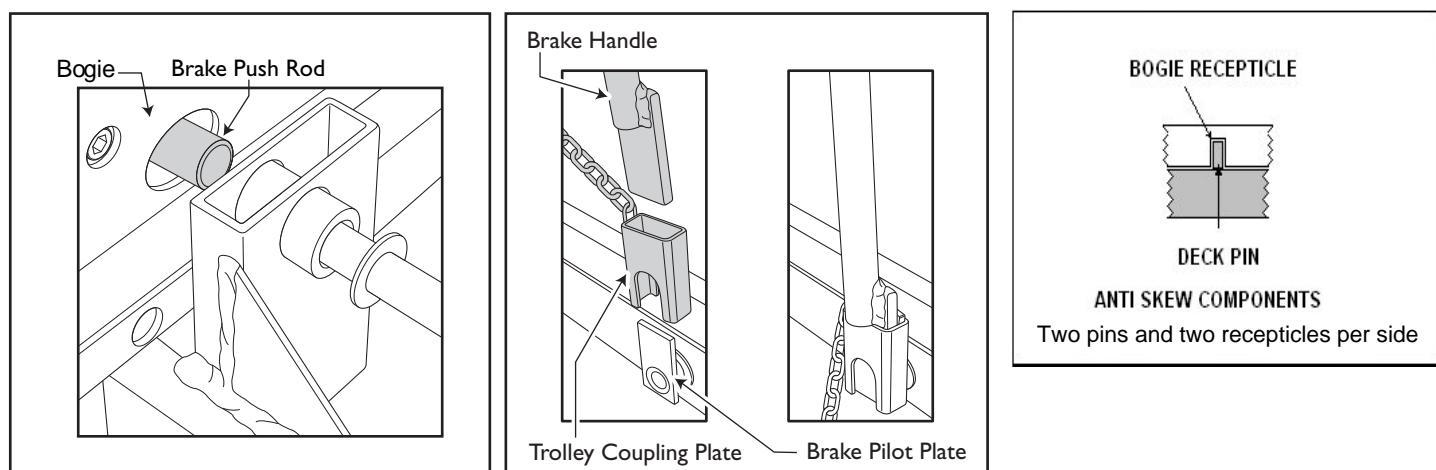


Check that the 'brake test date' label is valid on each bogie.

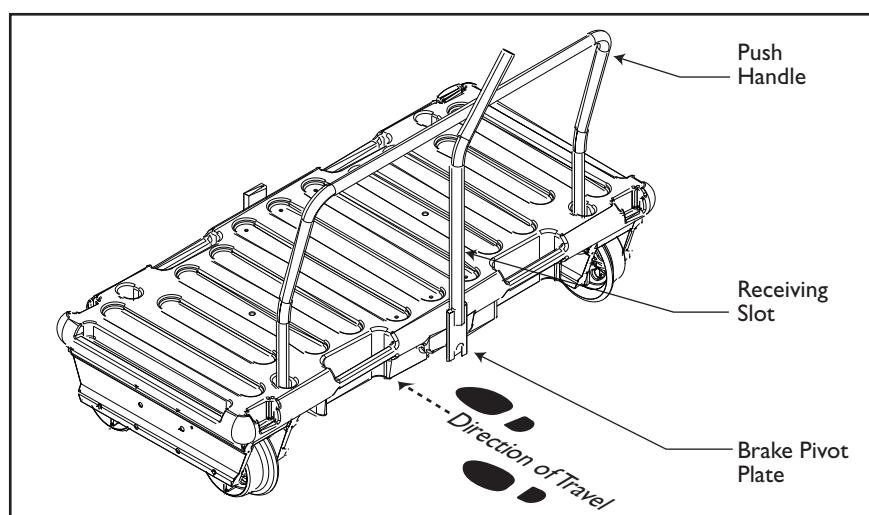
Position either aluminium bogie onto the deck, with the brake push rod facing inward. Retain the bogie in place by turning the locking hand wheel clockwise until secure. Ensuring that the anti skew pins on the deck match up to the receptacles on the bogie, and the bogie sits flush with the deck.

Check that all brakes function. The braked wheel must resist attempts to rotate it with one hand. Repeat for other side. Roll the deck over until it is standing on its wheels.

Lift the unit onto the track with all wheels correctly positioned ready to use. Lifting will require a minimum of 3 persons, or 4 persons for the LT1500A. Insert the push handle into receiving sockets, ensuring it is fully and securely engaged.

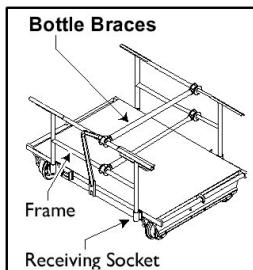


Insert the brake pivot handle onto the brake pivot plate and carry out a test to confirm that moving the handle in the direction of the ARROW label releases both the wheel brakes evenly.



Note: both push handle and brake pivot handle can be fitted to either end of the deck and should be placed so that the operator is pushing the unit in the required direction, NOT pulling.

## WELDERS TROLLEY



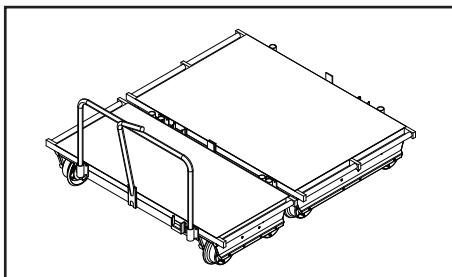
The Welders Trolley comprises of LT 1500 A, with the option of a frame that supports a pair of gas cylinders.

Insert one frame into receiving sockets on one side of the deck and the remaining frame on the opposite side. ensure both are fully and securely engaged.

Next, connect the two **bottle** braces to their respective anchor points.

\* **Gas bottles must be stood vertically against the bottle brace bars, and be strapped / roped securely via the tie down eyes provided.**

## LINKING TRAKRAT® LINK-TROLLEYS



You may link a maximum of 2 trakrat® Link-Trolleys but you may not link to any other make or model.

Place 2 trakrat® Link-Trolleys in tandem on the track, ensuring that the brake release direction arrows point in the same direction on each unit. Gently bring them together until the 'brake pivot plates' make contact. Slide the 'pivot connecting cap' over the two 'brake pivot plates' and double check that they are locked together.

Note that you can link an LT 1250 A with an LT 1500 A.

Activate the brake pivot handle and ensure that all brakes are releasing properly.

## SECTION 5

### OPERATING THE TRAKRAT® LINK-TROLLEY

The trakrat® Link-Trolley is fitted with two disc brakes, one either side, which remain engaged under normal operation. When moving the trakrat® Link-Trolley, the brake mechanism must be manually released.

To release the brakes, move the brake lever in the direction of the ARROW (Label) and hold in position. As soon as you release the lever, the brakes will re-engage. Should the brakes fail to re-engage, the trakrat® Link-Trolley must be removed from service immediately. Note the brake lever only moves in the direction of the arrow. Align direction arrows when linking trolleys

### IN USE CAUTIONS AND LIMITATIONS

LOAD GRADIENT	1500kg	1000kg	500kg
Up to 1 in 250	3	2	1
1 in 250 to 1 in 150	3	2	1
1 in 150 to 1 in 70	(4)	3	1
1 in 70 to 1 in 50	(5)	(4)	2
1 in 50 to 1 in 30*	(5)	(4)	2

Be aware at all times of conditions underfoot; never walk on the railhead or sleepers. Conditions underfoot will change immediately if wet or icy.

Gradients, load, ice and wet conditions will all affect the braking distances and braking effort required.

Always work with sufficient personnel to perform the task at hand, working within the guidelines for manual handling and operation of this equipment.

You must observe 2000kg maximum load pushable by three operatives.

**Number of persons required to push a loaded trolley as indicated in CoP0018 Code of Practice.**

\* Where authorised by local instructions

( ) Theoretical figures, not recommended.

It is recommended that no more than 3 men push a trolley.

### DO NOT

- Tie off, mechanically or otherwise the braking handle.
- Use the trolley if the brake test labels are either missing or out of date.
- Link trakrat® Link-Trolley with other manufacturer's link trolleys; THEY ARE NOT COMPATIBLE.
- Tow, ride on, motorise or exceed walking pace with trolleys.
- Stand on trolley.
- Overload. Example: where the maximum load = 1000 kg per trolley.  
(eg. 2000 kg over 2 trolleys = 1000 kg each NOT 1500 kg on no.1 and 500 kg on no. 2).
- Place hot items above 65°C (crucibles, welding torches etc.) onto Polypropylene deck. PERMANENT DAMAGE WILL OCCUR.
- Allow the load to under hang the deck, it may impact the brake mechanism or the infrastructure.
- Drag items over the edge of the deck. You must only lift all items and place on to the deck.
- Use the Trolley near live DC third rail or fourth rail.
- Use the Trolley with insulated wheels where live overhead AC power lines are present.
- Link more than 2 trolleys together.

## SECTION 6

### CLEANING AND GENERAL CARE

Observe local regulations.

Operate within Manual Handling Regulations.

Adherence to guidelines.

All maintenance/inspection procedures must be carried out within the guidelines set out in Rail Industry Standards for Portable and Transportable Plant Used for Infrastructure Work as well as those criteria mandated by CoP0018, Code of Practice for Rail mounted Manually propelled Equipment.

Axles, wheels and brakes are defined under CoP0018 as Railway Safety Critical and must be maintained in accordance with the guidelines laid out in CoP0018, Maintenance Elements of Small Plant and Equipment.

### GENERAL GUIDELINES

Always adhere to the maintenance schedule as detailed below.

Use only original trakrat® Link-Trolley replacement components.

Only trained, competent staff should complete all work.

Re-cycle used components where possible.

#### DAILY...

Inspect all components for damage or abnormal wear.

Check integrity of deck/sub frame fastenings.

Check integrity of all bogie fastenings

Check security of axle retaining pins.

Check Maintenance Brake Test Label is in date for each bogie.

Test the operation of all brakes by turning each braked wheel with one hand, the wheel must resist attempts to rotate it.

#### WEEKLY...

Carry out the daily inspections as above plus:

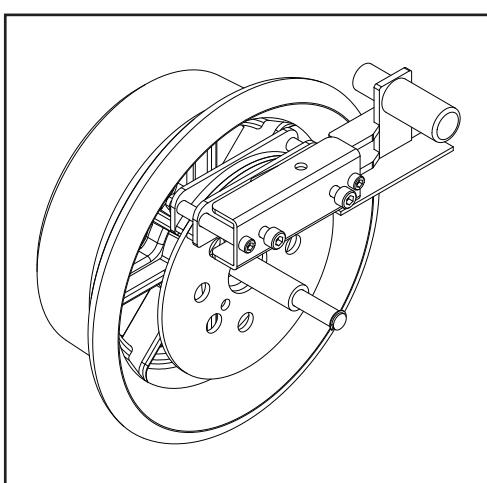
Inspect all wheels for wear/damage.

Operate and inspect brake linkage tubes.

Check legibility of all labels.

#### QUARTERLY...

#### BRAKES



Perform a complete maintenance brake test:

Refer to brake test/inspection and replacement section of the workshop manual.

Inspect all linkages, ensure they are free from damage and operate easily.

Remove all brake pads, inspect for wear and contamination, clean and replace as required. Pads must be replaced if the brake material gap is less than 1mm thick.

Clean and lightly grease all moving components including all springs whilst re-assembling the brake callipers.

Re-fasten all fastenings and test to the appropriate torque settings.

Re-adjust brake levers to remove any play from the system.

Re test using torque brake test, complete the "Maintenance Brake Test Record Sheet"

Conduct practical brake test.

Minimum acceptable torque figure of 90Nm (65lbs ft) must be achieved. If the brakes do not achieve the minimum figure, replace or adjust components as required.

#### BEARINGS/AXLES

Examine all wheel bearings for play/noise and replace if worn.

Check the end float on each axle does not exceed 3mm, re-shim with new spacer sets if required.

#### WHEELS

Conduct a detailed examination of the Aluminium wheels. Check for signs of excessive wear or distortion and compare dimensions against the P1 profile guage, refer also to diagram on page 16.

If the wheel is worn to the limits indicated on the guage or is likely to reach the max wear limit before the next scheduled inspection the wheel must be replaced.

#### UV DEGRADATION

All plastics are susceptible to UV degradation. Check all polymer components for stress fractures, hairline cracks and brittleness.

## trakrat Spares listing

Code No:	Description
S-RAI-011	Skate Side Extrusion - Inner (740mm) sockets
S-RAI-012	Skate Side Extrusion - Outer (740mm)
S-RAI-014	Skate Side Extrusion - Outer (1140mm)
S-RAI-015	Skate Side Extrusion - Inner (1140mm)
S-RAI-020	Skate Cross Brace Extrusion
S-RAI-030	Skate Hand Grip Extrusion
S-RAI-040	Deck Release Lock
S-RAI-050	Axle (12x255) St. St.
S-RAI-055	Wheel Spacer Tube (91mm)
S-RAI-070	Wheel 10" inc. bearing
S-RAI-072	Wheel 10" Insulated inc. bearing
S-RAI-080	Wheel Bearing
S-RAI-082	Wheel Bearing Insulator
S-RAI-090	Brake Disc (156mm)
S-RAI-092	Brake Disc (156mm) Insulated
S-RAI-095	Bearing Plastic (8x 5.5mm)
S-RAI-100	Brake Pad (2x pads)
S-RAI-104	Brake Spacer Tube (10x52)
S-RAI-108	Compression Spring (12x19x1mm)
S-RAI-110	Brake Caliper Pivot Bracket
S-RAI-120	Brake Caliper
S-RAI-125	Nylon Spacer (8x3x12)
S-RAI-127	Brake Caliper FULL assembly
S-RAI-130	Brake Adjusting Rod
S-RAI-135	Compression Spring (29x90x4mm)
S-RAI-138	Brake Anti Tamper Plate (98x65x3mm)
S-RAI-141	Brake Camshaft (25x25x380) LT1000
S-RAI-142	Brake Camshaft (25x25x220) LT1250/1500
S-RAI-143	Brake Camshaft (25x25x220) LT1250/1500 (Spring)
S-RAI-146	Brake Cam Connecting Rod (20x20x557) LT1250
S-RAI-148	Brake Cam Connecting Rod (20x20x957) LT1500
S-RAI-149-1	Tension Spring (20x105x3) LT1000
S-RAI-149	Tension Spring (11x83x2) LT1250/1500
S-RAI-150	Brake Pivot End (20x20x247) LT1000
S-RAI-151	Brake Pivot End (20x20x247) LT1000 (Spring)
S-RAI-152	Brake Pivot End (25x25x115) LT1250/1500
S-RAI-153	Brake Pivot End (25x25x115) LT1250/1500 (Spring)
S-RAI-160	Brake Pushrod (16x625) TOP 608mm
S-RAI-161	Brake Pushrod (16x625) BOTTOM 611mm
S-RAI-300	Polypropylene Deck 750mm
S-RAI-320	Aluminium Deck Sheet (748x1618mm)
S-RAI-340	Aluminium Deck Sheet (1148x1618mm)
S-RAI-400	Aluminium Chasis for Polypropylene Deck
S-RAI-420	Aluminium Chasis for 750mm Deck
S-RAI-440	Aluminium Chasis for 1150mm Deck
S-RAI-500	Trolley Coupling Cap
S-RAI-510	Trolley Push Bar Socket
S-RAI-520	Trolley Light Bracket
S-RAI-530	Trolley Light Mast Socket
S-RAI-540	Trolley Brake Handle - 40deg Double Plate
S-RAI-542	Trolley Brake Handle - Offset
S-RAI-550	Trolley Push Bar
S-RAI-800	Trolley Upstand 50mm Frame 1250
S-RAI-805	Trolley Upstand 50mm Frame 1250 (Broad)
S-RAI-810	Trolley Upstand 50mm Frame 1500
S-RAI-815	Trolley Upstand 50mm Frame 1500 (Broad)
S-RAI-900	Trakrat Gas Bottle Brace
S-RAI-910	Trakrat Tool Tray
S-RAI-920	Trakrat Tool Tray Brace
S-RAI-940	Trakrat Tool Tray Set (1 x Brace + 1 x Tray)
S-RAI-950	Trakrat Gas Bottle Set (2 x Brace + 1 x Push)
S-RAI-990	Trakrat P1 Profile Guage
S-RAI-999	Trakrat Brake Test Tool

## SECTION 7

TECHNICAL DATA	LT 1000P	LT 1250A	LT 1500A
Overall Weight	80 Kilos	76 Kilos	97 Kilos
Deck	40Kg	36Kg	49Kg
Bogie Each	20Kg	20Kg	24Kg
Centre Of Mass	Central	Central	Central
SWL	1000Kg	1250Kg	1500Kg
Length	800mm	750mm	1150mm
Width	1750mm	1800mm	1800mm
Platform Height From Rail Crown	370mm	330mm	330mm
Overall Height Including Push Rail	1000mm	1000mm	1000mm
Platform Area	1400mm <sup>2</sup>	1215mm <sup>2</sup>	1860mm <sup>2</sup>
Maximum Gradient	1:30	1:30	1:30

The SWL is based upon a load evenly distributed over the deck and may be revoked by local codes of practice.

### COMPLIANCE

trakrat® Link-Trolley complies with:  
 GM/RT 1310 BSEN 13977:2005(E)  
 European Machinery Directive (CE)



## SECTION 8

### WARRANTY

Your trakrat® Link-Trolley is covered by a 12 month warranty. The Company undertakes to replace or repair, free of charge, any defect which the Company considers to be due to faulty workmanship or material within 12 months of the sale date, except for:

- Defects arising from neglect, misuse or unauthorised modifications.
- Damage caused by abuse, misuse, dropping or other similar damage caused by or as a result of failure to follow transportation, storage, loading or operation, instructions.
- Alterations, additions or repairs carried out by persons other than the Manufacturer or their recognised distributors.
- Transportation or shipment costs to and from the Manufacturer or their recognised agents, for repair or assessment against a warranty claim, on any trakrat® Link-Trolley or component.
- Materials and/or labour costs to renew, repair or replace components due to fair wear and tear.
- Faults arising from the use of non-standard or additional parts, or any consequential damage or wear caused by the fitting or use of such parts.

**IMPORTANT** – warranty may at the sole discretion of the manufacturer be voided if the scheduled maintenance/inspections are not carried out by a competent person.

The Manufacturer and/or their recognised agents, directors, employees or insurers will not be held liable for consequential or other damages, losses or expenses in connection with or by reason of or the inability to use the trakrat® Link-Trolley for any purpose.

### MODIFICATIONS:

If additional equipment or any third party work, modifications or alterations are to be carried out on the trakrat® Link-Trolley, which will involve any welding, drilling or any form of cutting or distortion of materials, full written approval must be obtained from the Manufacturer prior to the work being carried out.

## SECTION 9

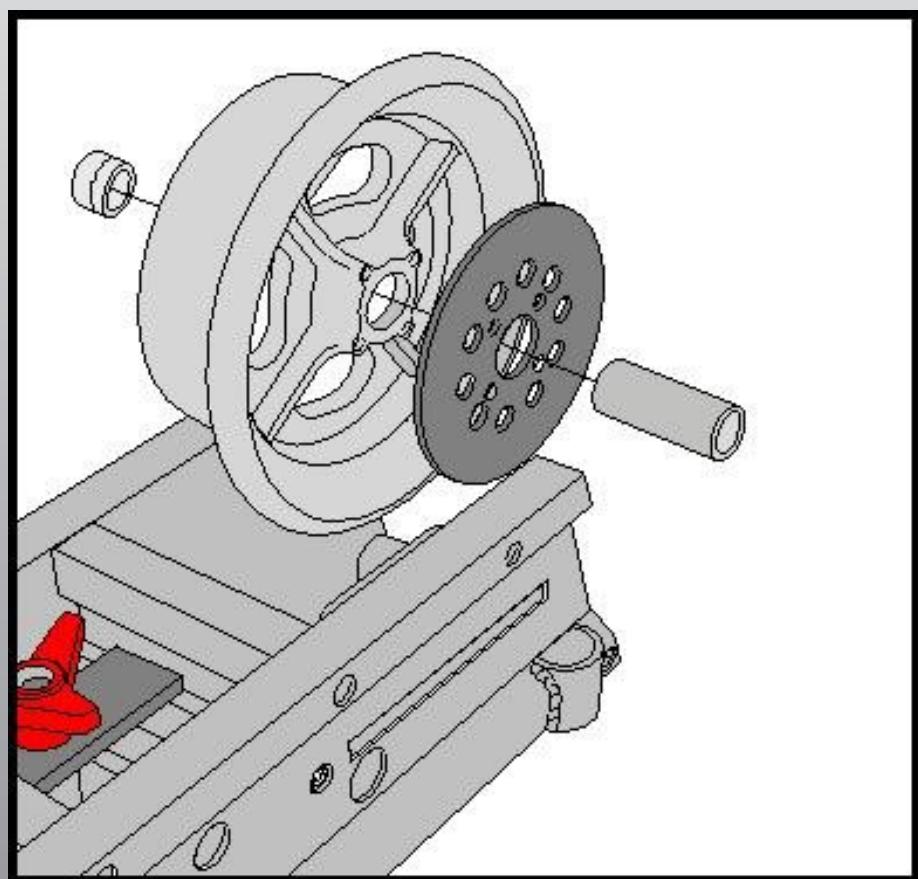
### STOPPING DISTANCE TABLE

Figures quoted are the maximum permitted under BS EN 13977:2005 (section 5.4)

Gradient	Stopping Distance at 3mph (5km/h) – Dry Rail	Stopping Distance at 3mph (5km/h) – Wet Rail
Level – Single Trolley	6m	10m
1 in 27 – Single Trolley	10m	14m

# trakrat®

[www.trakrat.com](http://www.trakrat.com)



**Bogie Brake Inspection Test** 

# Bogie Brake Inspection Test

## SECTION I0

### GENERAL

Full inspections of the bogie braking system must be carried out at 3 monthly intervals in line with codes of practice documented in COP 0018 March 2006.

The results of these inspections reported in the maintenance log and new validation labels indicating the next 3 monthly inspection date applied to each wheel set at the position indicated.

**IMPORTANT:** As each wheel set (Bogie) is completely independent, and interchangeable from deck to deck. Each wheel set (Bogie) will require its own report form and 'Brake Test Label'

**TOOLS REQUIRED** 19mm ring spanner x 2

10mm ring spanner

4mm allen key

5mm allen key

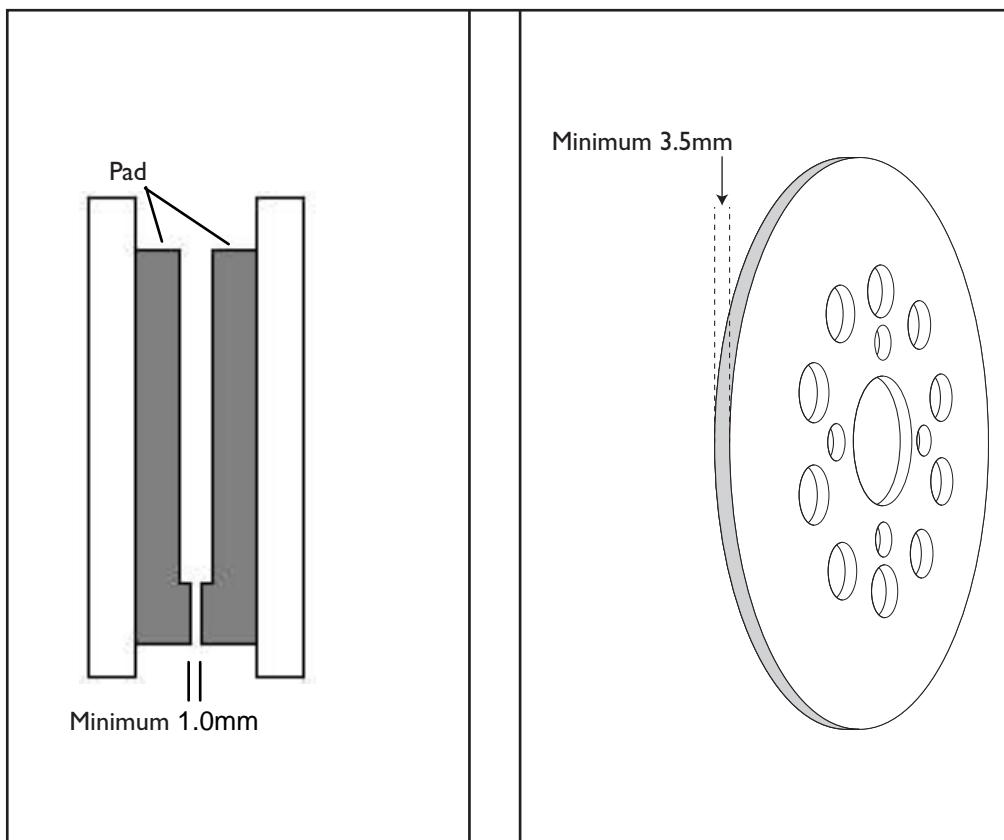
trakrat® brake test tool / torque wrenches.

Vernier or rule

## SECTION II

### INSPECTION

With the wheel set upside down on a suitable surface, visually inspect the brake pads. They require a minimum gap of 1.00mm to be operational. If it is likely that this figure will be reached before the next quarterly inspection, replace the pads now!



Check the condition of the brake disc. It should be free of ruts and have a minimum thickness of 3.5mm. Replace as necessary. Inspect and check the wheel/bearings for wear or damage. Replace as necessary.

## SECTION I2

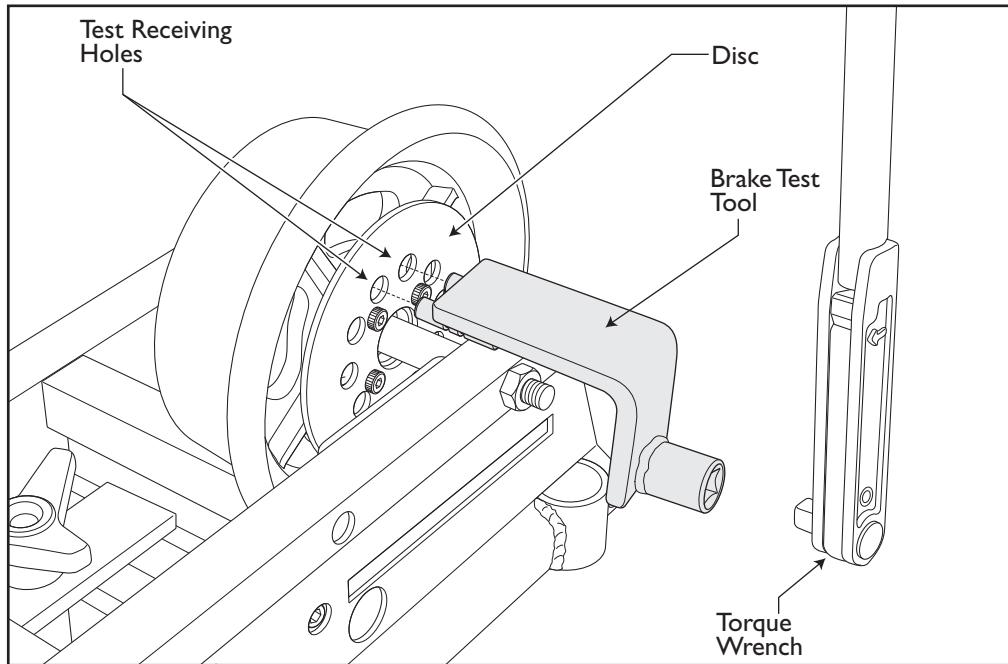
### TEST PROCEDURE

Testing should be done with dry wheels / brake pads

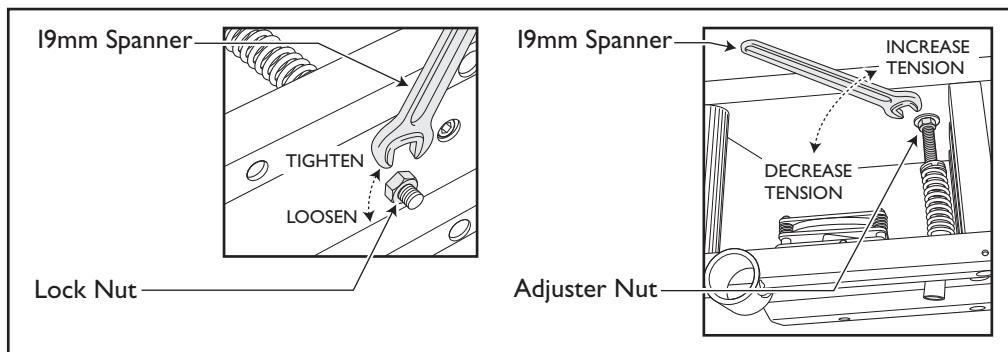
#### 'trakrat® BRAKE TEST TOOL'

Insert the "brake test tool" into the receiving holes in the disc. Locating the tool over the axle to stabilise it whilst the torque wrench is attached.

Set the torque wrench to 65lbs ft / 90Nm, and apply. The wheel should not rotate. This test is applied to each quarter turn of the wheel. Test as above - Release brake, rotate wheel one quarter turn and repeat torque test.



If the minimum torque figures are not obtained, tighten the adjusting nut on the Brake Pad Tensioning Spring and re-test as above. To adjust, release the lock nut, turn the adjuster nut clockwise as viewed then retighten the lock nut.



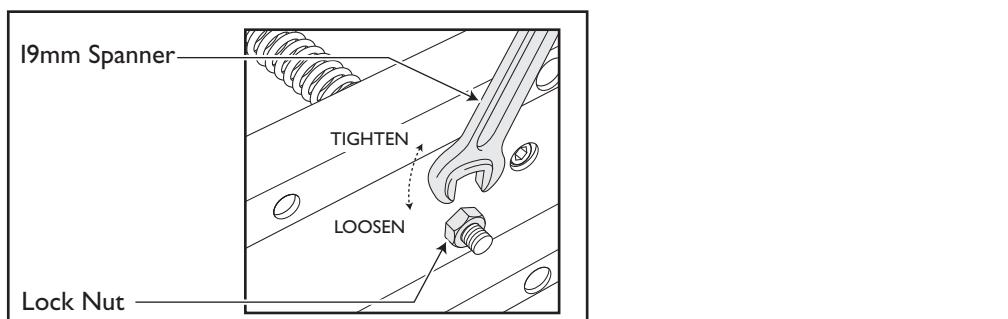
Once successfully completed:

Fill out the form entitled "Maintenance Brake Test Record", and apply the 'New Test Date Label'

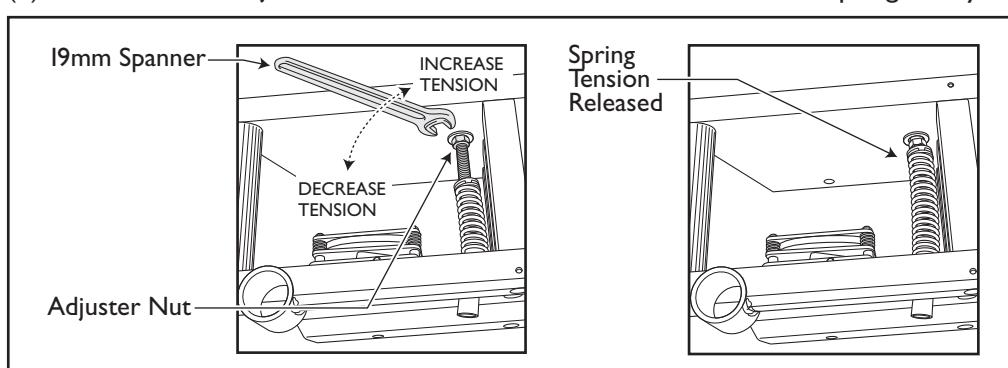
## SECTION 13

### BRAKE PAD / WHEEL / DISC REPLACEMENT PROCEDURE

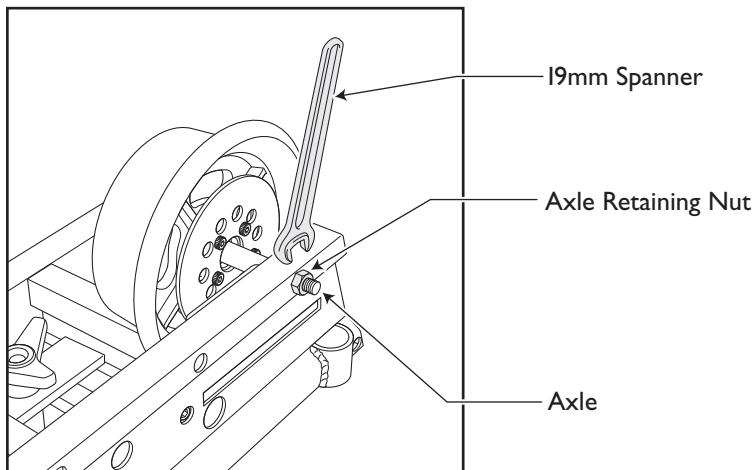
(1) Release external 19mm locknut on the tension adjuster bolt.



(2) Turn the 19mm adjuster nut anticlockwise as viewed until tension spring is fully released.



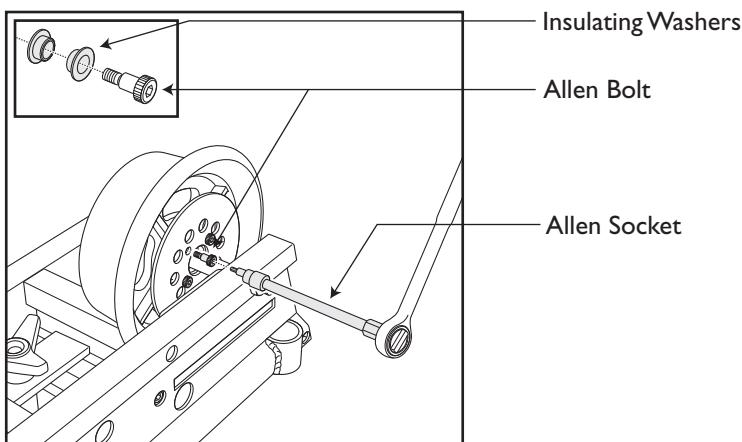
(3) Remove 19mm axle retaining nut.



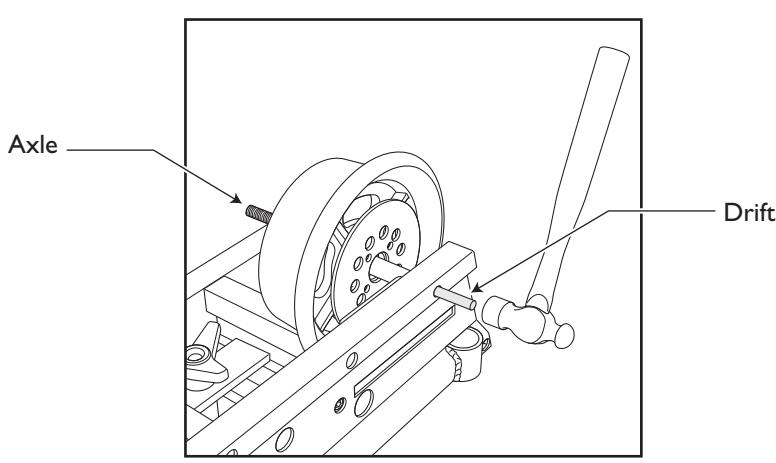
## SECTION 14

### DISC AND WHEEL REMOVAL

(4) Remove the four 4mm allen headed shoulder bolts one at a time, depressing the actuator and rotating the wheel to gain access as you progress. If fitted with insulating washers, these should be discarded and new ones fitted during the rebuild.



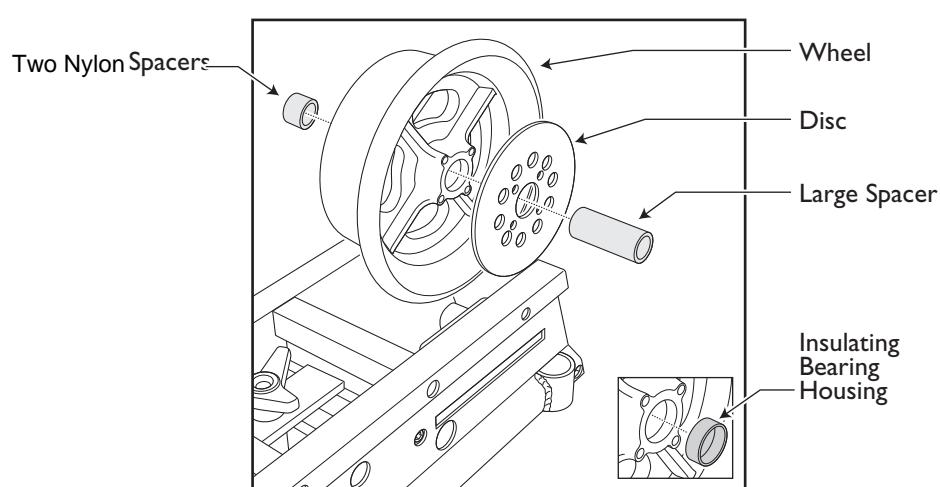
(5) Partially remove axle, using a suitable drift.



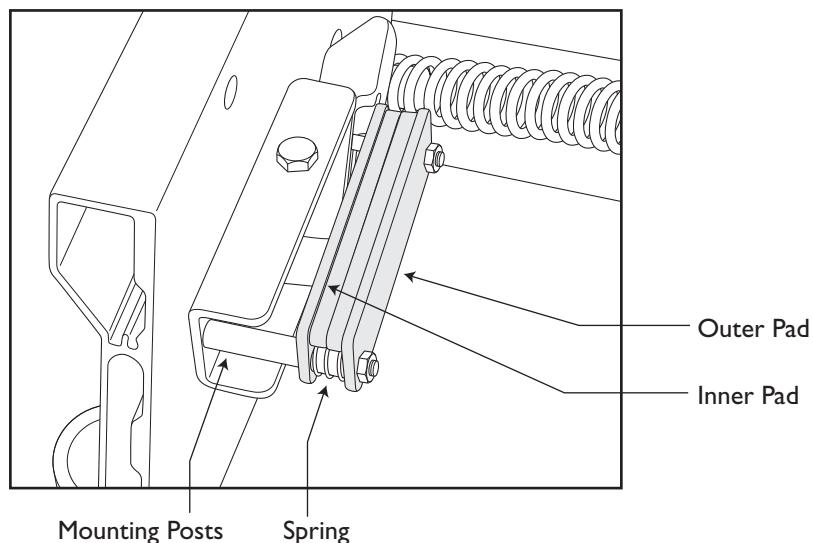
(6) Press the actuator and slide disc aside then remove the large spacer tube.

Press the actuator again and remove disc.

Finally, completely remove axle and remove the wheel, and two nylon spacers.



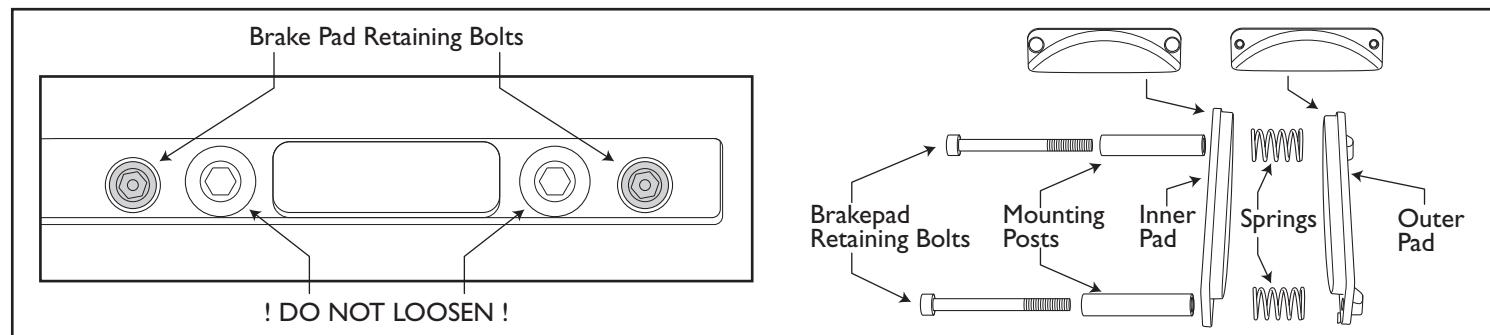
(7) Brake pads are now fully accessible.



## SECTION 15

### BRAKE PAD REMOVAL

(8) Loosen both brake pad retaining hex bolts. Note: the brake pad retaining bolts are the outer of the four, DO NOT loosen the inner two. Carefully remove both pads / springs.



(9) Carefully remove both pads and springs. Clean / grease the mounting posts and springs.

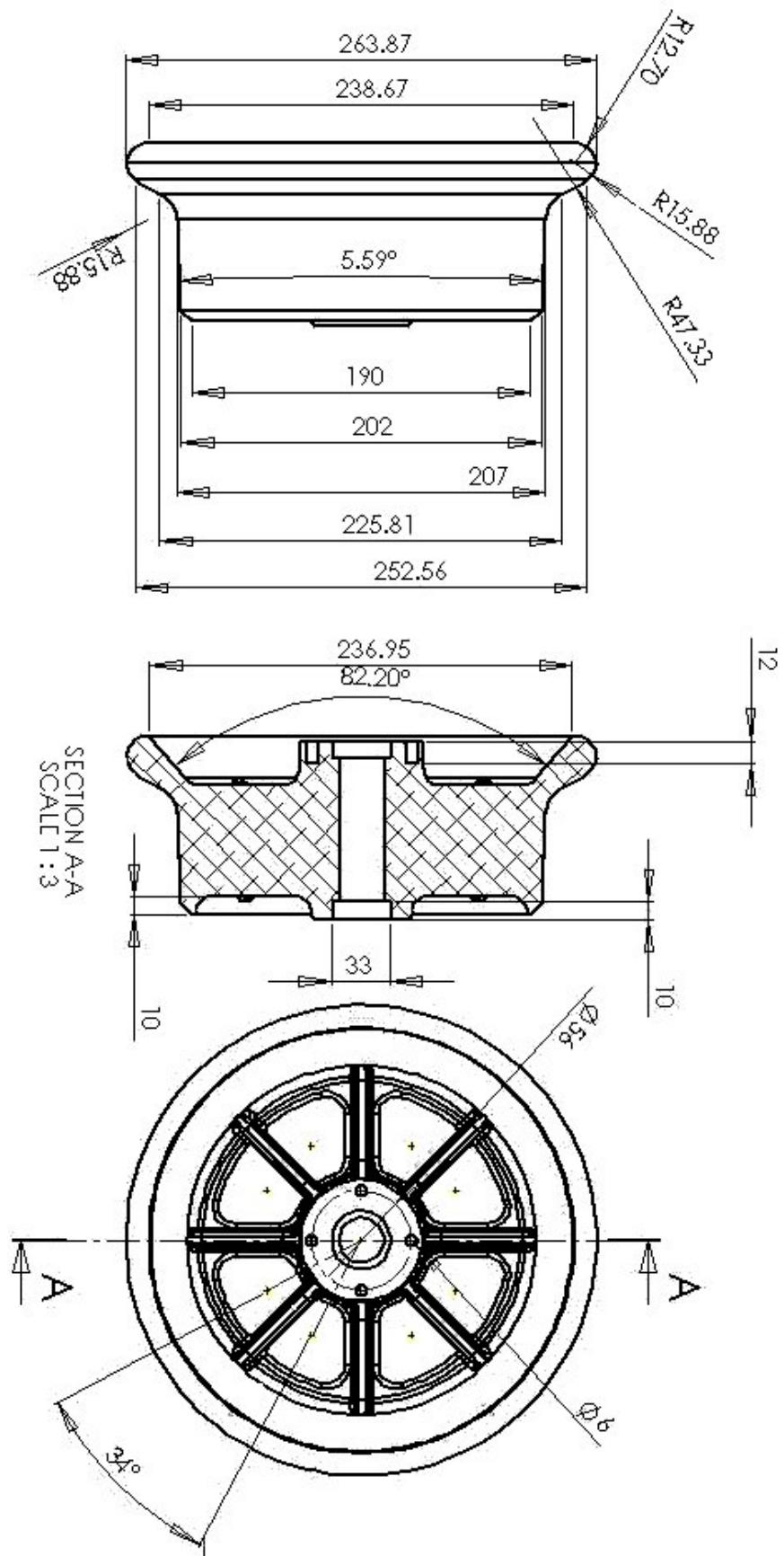
To fit new brake pads simply reverse the above procedure.

**'trakrat'****Maintenance Brake Test Report**

Trolley Number / Owners Name		
Bogie ID Number		
Trolley Type		
Number of Braked wheels	NB All braked wheels must be torque tested	
Recommended Minimum Brake Test Setting 65lbs ft / 90Nm	Torque figures for braked wheel	
	Before Adjustment	After Adjustment
Quadrant 1 forward		
Quadrant 2 forward		
Quadrant 3 forward		
Quadrant 4 forward		
Quadrant 1 reverse		
Quadrant 2 reverse		
Quadrant 3 reverse		
Quadrant 4 reverse		
Average Torque figure		
Name of Tester		
Signature of Tester		
Date of Test		
Location of Test		
Date of next Test		

**BOGIE ID No:****NEXT BRAKE TEST DATE:**

## P1 PROFILE RAIL WHEEL



## Labelling

We are able to label bogies, and or trolley decks with a variety of labels. In general however we are indicating what are accepted within the UK Rail networks, Whether that be overground which generally comes under the jurisdiction of Network Rail or underground which generally applies to London underground or LUL.

When ordering outside the UK please specify the labelling you require if they differ from those shown on these pages.

BOGIE LABEL SET		Dimensions	Quantity Per Bogie
		120mm x 35mm	1
		60mm X 38mm	1 Model type and details depend upon whether LT1000P, LT1250A, or LT1500
		60mm x 25mm	1
		61mm x 21mm	1 Only used on live rail bogies.
** UK		109mm x 21mm	1 Use on London Underground Only
** UK		174mm x 21mm	1 Use on Network Rail Only
		213 x 30 mm	1 SWL Figure Dependent on bogie / deck

\*\*Note SWL label may change to state SWL subject to client requirements.

NOTE: BOGIE SERIAL NUMBERS ARE NOW ALSO ETCHED ONTO THE BOGIE

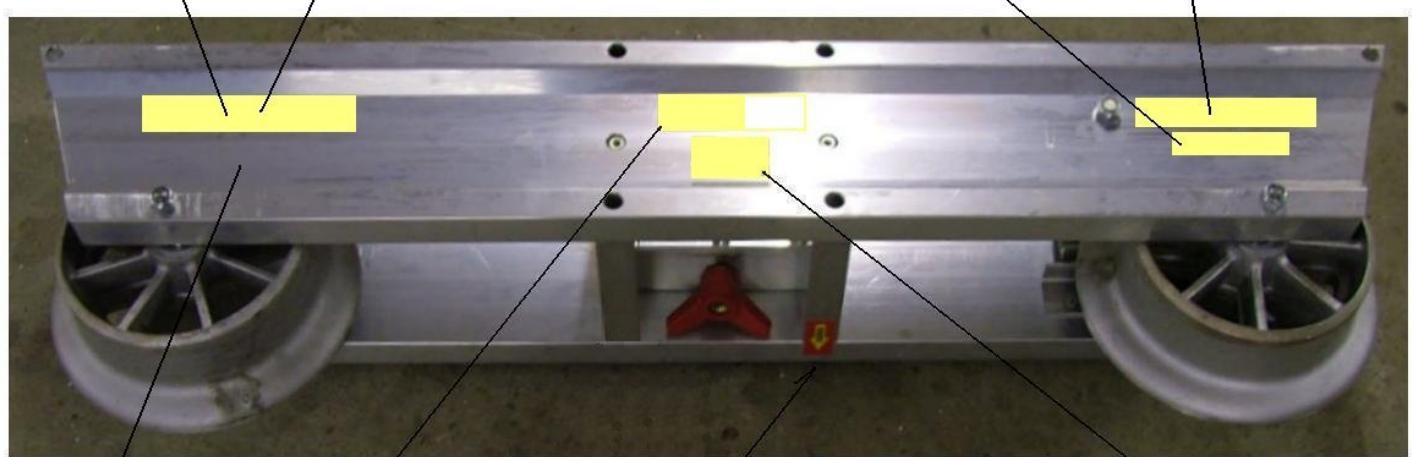
The labelling shown depicts that which we supply to the UK rail industry. If your requirements differ, then please state clearly at the time of order.

### BOGIE LABEL LOCATIONS

**UK TRA-071 SWL - 1000Kg**  
**ABOVE GROUND ON BOTH LT1250 &**  
**LT1500**

**UK TRA-072 SWL1250Kg**  
**TRA-073 SWL1500Kg**  
**On Appropriate Bogies**  
**For Underground**

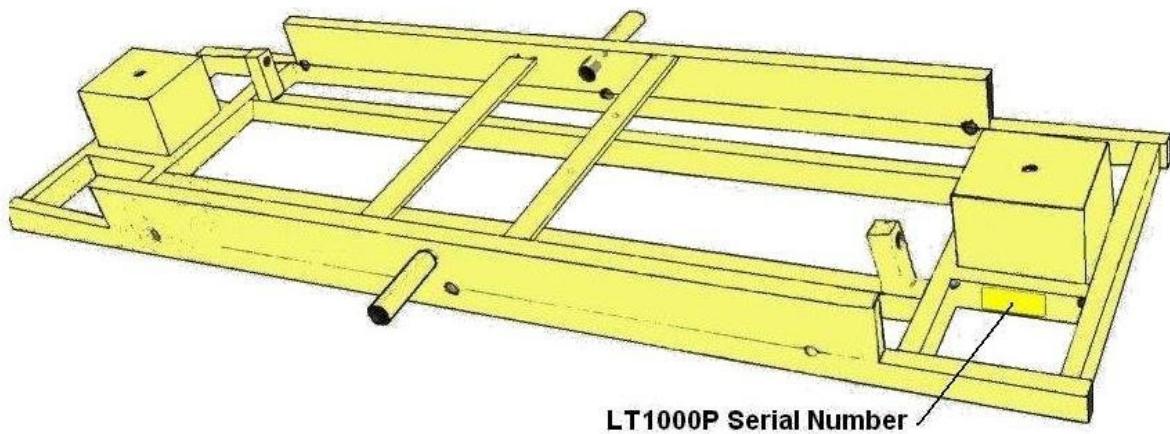
**Used On Insulated Bogies UK**  
**TRA-121 (INSULATED) + TRA-141 (USE ON LUL ONLY)**



**TRA-101 Next brake test date has the next date written in before shipping  
(3months from date of manufacture)**

**LT1000P LABEL SET**

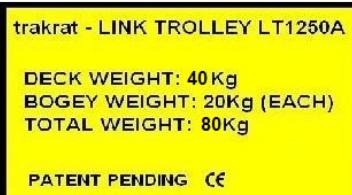
	<b>107mm x 39mm</b>	<b>1</b>	<b>Placed under the deck in view. See drawing</b>
--	---------------------	----------	---



For detail on bogie label set and location see LT1250A bogie

Labelling shown depicts that which we supply to the UK Rail industry. In the case of decks whether that be the LT1250 or LT1500 we would include all the following, plus if you wish to add SWL labelling to the deck rather than the bogies please ensure we are made aware.

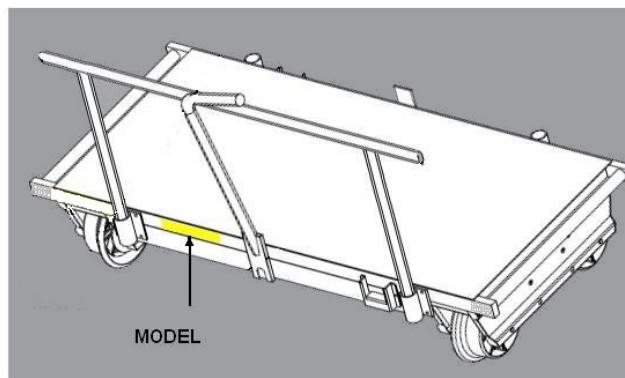
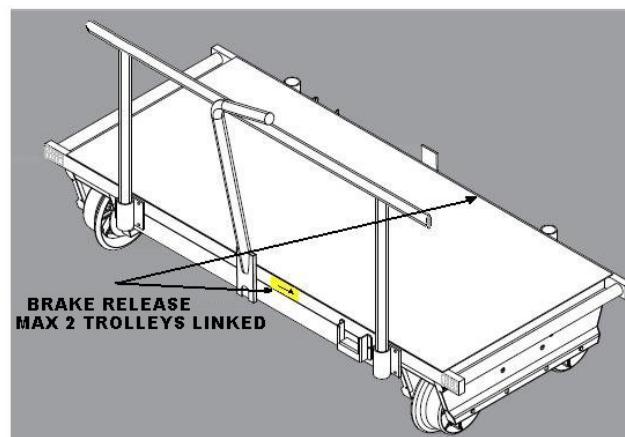
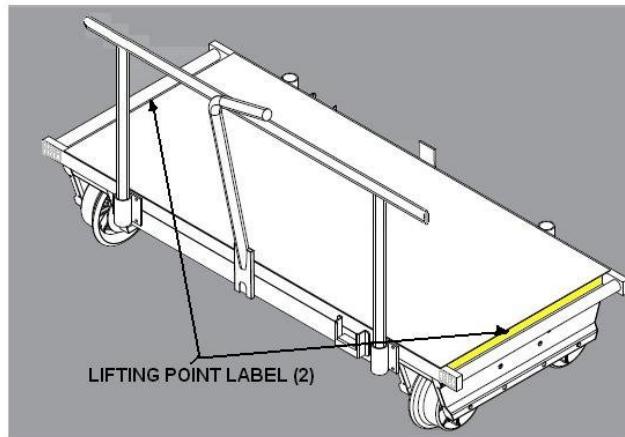
### LT1250A DECK LABEL SET



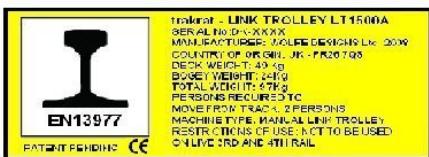
**trakrat®** model  
LT1250A

Dimensions	Qty Per	Notes
89mm x 39mm	1	Placed on both sides to indicate direction of brake release. Note one left hand and one right hand label. See drawing
89mm x 39mm	1	
107mm x 39mm	1	Placed under the deck in view. See drawing
337mm x 39mm	2	Placed on deck behind each lifting point position. See drawing
73mm x 39mm	1	Placed under the deck in view. See drawing
219mm x 39mm	1	Placed on side of the deck. See drawing

LT1250 DECK LABEL LOCATION



## LT1500A DECK LABEL SET



**LIFTING POINT**

4 MAN LIFT  
WHEN ASSEMBLED

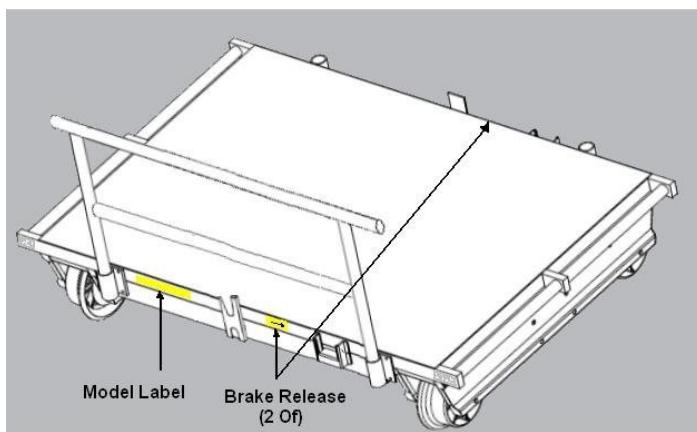
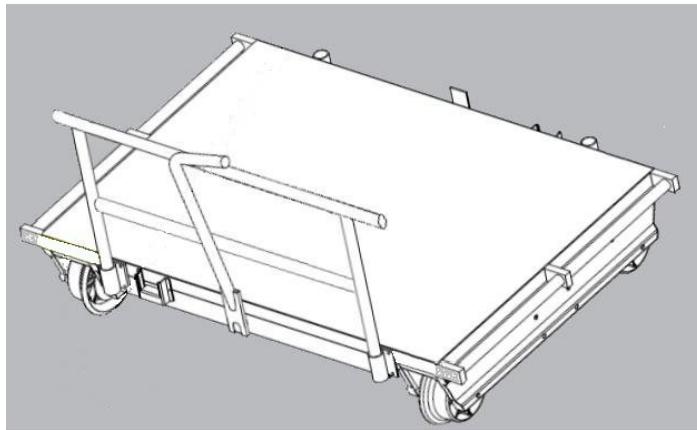
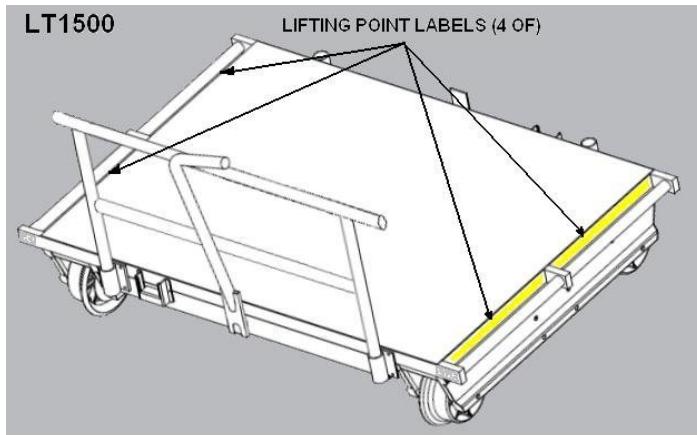
trakrat - LINK TROLLEY LT1500A  
  
DECK WEIGHT: 49Kg  
BOGEY WEIGHT: 24Kg (EACH)  
TOTAL WEIGHT: 97Kg  
  
PATENT PENDING CE

**trakrat®**

model  
LT1500A

Dimensions	Qty Per	Notes
89mm x 39mm	1	Placed on both sides to indicate direction of brake release. Note one left hand and one right hand label. See drawing
89mm x 39mm	1	
107mm x 39mm	1	Placed under the deck in view. See drawing
337mm x 39mm	4	Placed on deck behind each lifting point position. See drawing
73mm x 39mm	1	Placed under the deck in view. See drawing
219mm x 39mm	1	Placed on the deck See drawing

LT1500



## trakrat label part numbers

<b>TRA-001</b>	trakrat serial number deck <b>LT1000P</b>
<b>TRA-011</b>	trakrat serial number deck <b>LT1250A</b>
<b>TRA-021</b>	trakrat serial number deck <b>LT1500A</b>
<b>TRA-031</b>	trakrat serial number bogie <b>LT1000P/LT1250A</b>
<b>TRA-032</b>	trakrat serial number bogie <b>LT1000P/LT1250A INSULATED</b>
<b>TRA-041</b>	trakrat serial number bogie <b>LT1500A</b>
<b>TRA-042</b>	trakrat serial number bogie <b>LT1500A INSULATED</b>
<b>TRA-052</b>	trakrat model label <b>LT1250A</b>
<b>TRA-055</b>	trakrat model label <b>LT1500A</b>
<b>TRA-062</b>	trakrat weight label <b>LT1250A</b>
<b>TRA-065</b>	trakrat weight label <b>LT1500A</b>
<b>TRA-071</b>	trakrat <b>SWL1000Kg</b>
<b>TRA-072</b>	trakrat <b>SWL1250Kg</b>
<b>TRA-073</b>	trakrat <b>SWL1500Kg</b>
<b>TRA-081</b>	trakrat brake release arrow <b>left Max 2 trolleys linked</b>
<b>TRA-082</b>	trakrat brake release arrow <b>right Max 2 trolleys linked</b>
<b>TRA-091</b>	trakrat lifting point <b>4 Man lift when assembled</b>
<b>TRA-101</b>	trakrat next brake test
<b>TRA-111</b>	trakrat bogie inside arrow
<b>TRA-121</b>	trakrat insulated
<b>TRA-140</b>	trakrat <b>Overground Only</b>
<b>TRA-141</b>	trakrat <b>Underground Only</b>

Note that labels TRA-121, TRA-140, TRA-141 relate to UK Network Rail or London Underground (LUL).

In all cases "Insulated" refers to the bogie having insulated wheels.

Serial Numbers are etched onto bogies and decks subject to customer requirements



## Certificate of Acceptance

Certificate No: PA05/03291      Issue: 1      Date: 01/07/2008  
Effective date: 01/07/2008

<b>Product:</b>	'Trakrat' Modular Rail Link Trolleys.
<b>Manufacturer:</b>	Wolfe Designs Ltd 125 Clydesdale Place Moss Side Industrial Estate Leyland. Lancs. PR26 7QS

Certificate No. <b>MR/CTC/264(a)</b> Page 1 of 1	<b>METRONET RAIL LIMITED</b> <b>CERTIFICATE OF TECHNICAL CONFORMANCE FOR ROLLING STOCK</b>	<b>METRONET</b>
<p>This Certificate constitutes a 'type' approval for new rolling stock, or modification(s) to existing rolling stock. It certifies that the composition/vehicle complies with those engineering standards appropriate for operation over the areas of the London Underground system shown. It is the responsibility of the Project Manager to ensure that all subsequent production vehicles conform to the same engineering standards.</p>		
<p><b>Title:</b> Wolfe 'trakrat' Link Trolley</p>		
<p><b>Composition:</b> The 'trakrat' is a modular three part Link Trolley consisting of two bogies (skate type) and a trolley deck, manufactured by Wolfe Designs Ltd. Two sizes are currently considered suitable for use on London Underground.  <ul style="list-style-type: none"> <li>• The LT 1250A-1, which has a 750mm x 1800mm deck and carries a load of 1250 kg.</li> <li>• The LT 1500A-1, which has an 1105mm x 1800mm deck and carries a load of 1500 kg. (The bogies for the LT 1500A-1 are longer to accommodate the increased deck size.)</li> </ul> </p>		
<p>The trolley is manually operated.</p>		
<p><b>Type of operation:</b> The 'trakrat' is intended for use as a general purpose trolley to carry miscellaneous materials. Up to two 'trakrat' trolleys may be coupled together.</p>		
<p><b>Area of operation:</b> The 'trakrat' may be used on LU track managed by MRSSL and/or MRBCV. It may only travel and work with the traction current OFF, in Engineering Hours, or within a Possession.</p>		
<p><b>The following conditions apply:</b>  <ul style="list-style-type: none"> <li>• The traction current must be discharged before the trolley is taken onto the track.</li> <li>• The 'trakrat' must not be coupled to other Link type trolleys.</li> </ul> </p>		
<p><b>Period of certification:</b> 30 June 2013.</p>		
<p><b>Attached documents to be read as part of certificate:</b>  <ul style="list-style-type: none"> <li>• LU Rule Book 18 section12 – Track Trolleys.</li> <li>• MRSSL standard MR-S-TR-0007 – Manually Operated Track Trolleys.</li> <li>• Wolfe 'trakrat' Instruction Manual.</li> <li>• Route Availability certificate Ref. 0311.</li> <li>• Plant Approval certificate Ref. Tools/Small Plant/076.</li> <li>• Braking Approval Statement from A G Morris, dated 15 Jan 2008</li> </ul> </p>		
<p>(Previously approved for trial under MR/CTC/199 and MR/CTC/264).  Signed: <u>Chris Holmes</u> Date: <u>5<sup>th</sup> August 2008</u> Approved:  Chris Holmes 2008  MR Rolling Stock Asset Engineer</p>		
<p><i>Graham Nell</i> Date: <u>05/08/08</u>  Graham NELL  The Rolling Stock Engineer, LU</p>		
Distribution for CTC to letter: <u>G</u>	Graham Nell (Original signed copy of CTC), Infrastructure Controller (via Roger Bilett, CTC only). Certificate Register (Terry Martin), Richard Wilson, Selwyn Walker.	



## Plant Approval Certificate

### Track plant or equipment

Track maintenance plant and equipment submitted for Plant Approval must comply with the appropriate statutory regulations, LU standards and the requirements of this certificate. It is the responsibility of the Project Manager to ensure that the plant/equipment submitted for approval is compliant with the regulations and standards of the above companies. Plant and equipment approval requirements are defined in LU standard 1-172 'Plant Tools and Equipment - Performance and Design'. Note 1. If this plant is defined as a rail vehicle, Approval must be granted by the Rolling Stock Engineer LU before it is allowed to run on the LU rail system. Note 2. Approved plant must meet the inspection and maintenance requirements of LU standard 1-173 'Plant, Tools and Equipment - Inspection and Maintenance'. Note 3. Operators must be trained and certificated TE-QAS-0302 Note 4. Diesel engine powered plant must conform to the requirements of LU QUENSH conditions Ref. 2-05104-432

<b>Description:</b>	'trakrat' 3 part trolley, 2 bogies & deck, swl. 1250kg & 1500kg
<b>Make:</b>	Wolfe Designs Limited
<b>Model:</b>	LT1250A-LUL & LT1500A-LUL
<b>Identification Number:</b>	Generic
<b>Type of operation:</b>	To carry miscelaneous materials on the track.
<b>Area of operation:</b>	On LU track managed by Nominees BCV & SSL Limited.
<b>Operational limitations or Conditions:</b>	<ol style="list-style-type: none"> <li>1. The trakrat Link Trolley must carry the CE mark.</li> <li>2. Each bogie and the deck of the trakrat Link Trolley must be clearly marked with a unique identification number. The unique number must be etched or stamped, on the item or on a label riveted or welded to the item.</li> <li>3. Each bogie must be tagged with the date of its next routine maintenance and brake test.</li> <li>4. The deck must be tagged with the date of its next routine maintenance.</li> <li>5. The trakrat Link Trolley may only be used with the traction current OFF. Normal protection procedures for trolleys must be followed.</li> <li>6. The trakrat Link Trolley operator must have trakrat Link Trolley training from a company approved by LUL Nominees BCV &amp; SSL Limited.</li> <li>7. Health and Safety signage must include the weight of each element of the Trakrat Link Trolley and "Assembled 4 man lift".</li> <li>8. The trakrat Link Trolley must be marked "Max. 2 Trolleys linked".</li> <li>9. The trakrat Link Trolley must be in good working order and suitable for its intended tasks.</li> <li>10. Any Notifiable incidents involving the trakrat Link Trolley must be copied to Track Assessment - LU.</li> </ol>
<b>Type of Approval:</b>	Limited Operational Approval - Type Approval
<b>Weight:</b>	91 kg.
<b>Powered By:</b>	Manual
<b>Documents to be read as part of this certificate:</b>	<ol style="list-style-type: none"> <li>1. LU Rule Book 18 section 12.</li> <li>2. Metronet Rail Standard MR-S-TR-007 Manually operated Track Trolleys.</li> <li>3. Wolfe Designs Ltd. trakrat Instruction Manual.</li> </ol>
<b>Period of certification:</b>	30/06/2013
<b>Certificate Number:</b>	Plant/8780_Rev.02

Signed:

Date: 10/02/2010

WJ Meyers - Track Assessment Engineer



# Registered Supplier

## Link-up Qualification Scheme

**Wolfe Designs Limited**

**Supplier Number: 20212**



Date Printed: 19 February 2010  
Expiry Date: 12 January 2011  
Certificate Number: 58116-20212/68381

Peter Brookes  
Rail Sector Manager  
Achilles Information Limited



**Achilles Information Limited**  
30 Park Gate Milton Park Abingdon Oxon OX14 4SH UK  
T: +44 (0)1235 820813 F: +44 (0)1235 821093 E: [enquiries@achilles.com](mailto:enquiries@achilles.com) [www.achilles.com](http://www.achilles.com)

**PRODUCT CODE SUMMARY**  
**LINK-UP QUALIFICATION SCHEME**

**Wolfe Designs Limited**

**1703.1003.SMP P-Way Trolleys - SMP**

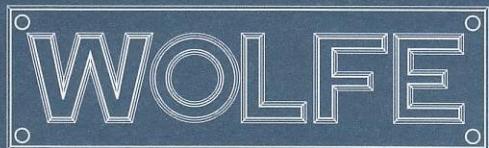
Scheme	Status	With Link-up Audit	High Street Only
National Rail	Scored Evaluation	No	N/A
Underground	Scored Evaluation	N/A	N/A

83183-20212/68382 20212 19 February 2010

**1703.1007.SMP Trackside Lighting, Temporary & Permanent - SMP**

Scheme	Status	With Link-up Audit	High Street Only
National Rail	Registered	No	N/A
Underground	Registered	N/A	N/A

83183-20212/68382 20212 19 February 2010



## EC Declaration of Conformity

We Wolfe Designs Ltd.

of 125 Clydesdale Place, Moss Side Industrial Estate, Leyland,  
Lancashire, PR26 7QS, UK.

*in accordance with the following Directive(s):*

98/37/EC The Machinery Directive

*hereby declare that:*

Equipment Trakrat Link Trolley (LT 1000 P)

Model number DK-1000-P BY-1000

Serial Number DK-8001 to DK-9000 BY-2001 to BY-8000

*is in conformity with the applicable requirements of the following documents*

Ref. No.	Title	Edition/date
BS EN ISO 12100-2	Safety of machinery. Basic concepts, general principles for design. Technical principles.	2003 + AMD 14975
BS EN 13977	Railway applications – Track – Safety requirements for portable machines and trolleys for construction and maintenance	2005
RE/STD/039 Part7	Brake system requirements – category VII vehicles – minimum requirements	Issue B

I hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The unit complies with all applicable Essential Requirements of the Directive(s).

Signed by: .....

Name: A. Pugh

Position: Director

Done at Leyland

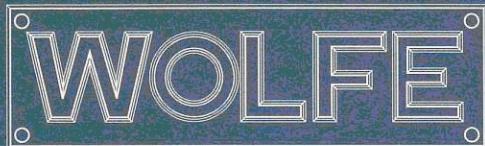
On 10 October 2007

CE07

Document ref. No.

Wolfe Designs Limited, 125 Clydesdale Place,  
Moss Side Industrial Estate, Leyland, LANCS PR26 7QS UK  
Tel: +44 (0)1772 456191 Fax: +44 (0)1772 622464  
[www.wolfedesigns.co.uk](http://www.wolfedesigns.co.uk)

Directors: Chris Suter Michael Ashley Anthony C.L. Pugh Neil C. Watson (Managing Director)  
Registered in England No. 4056801



## EC Declaration of Conformity

We  
of  
Wolfe Designs Ltd.  
125 Clydesdale Place, Moss Side Industrial Estate, Leyland,  
Lancashire, PR26 7QS, UK.

*in accordance with the following Directive(s):*

98/37/EC                    The Machinery Directive

*hereby declare that:*

Equipment	Trakrat Link Trolley (LT 1250 A)
Model number	DK-1250-A
Serial Number	DK-1001 to DK-3000
	BY-2001 to BY-8000

*is in conformity with the applicable requirements of the following documents*

Ref. No.	Title	Edition/date
BS EN ISO 12100-2	Safety of machinery. Basic concepts, general principles for design. Technical principles.	2003 + AMD 14975
BS EN 13977	Railway applications – Track – Safety requirements for portable machines and trolleys for construction and maintenance	2005
RE/STD/039 Part7	Brake system requirements – category VII vehicles – minimum requirements	Issue B

I hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The unit complies with all applicable Essential Requirements of the Directive(s).

Signed by: .....

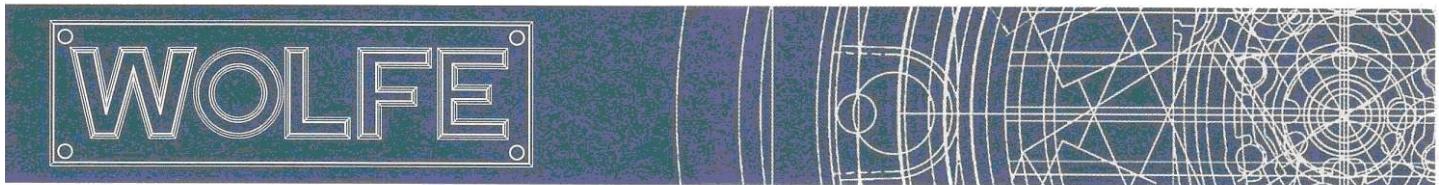
Name:                    A. Pugh  
Position:                Director  
Done at                 Leyland  
On                        10 October 2007

**CE07**

Document ref. No.

Wolfe Designs Limited, 125 Clydesdale Place,  
Moss Side Industrial Estate, Leyland, LANCS PR26 7QS UK  
Tel: +44 (0)1772 456191 Fax: +44 (0)1772 622464  
[www.wolfedesigns.co.uk](http://www.wolfedesigns.co.uk)

Directors: Chris Suter    Michael Ashley    Anthony C.L. Pugh    Neil C. Watson (Managing Director)  
Registered in England No. 4056801



## EC Declaration of Conformity

We Wolfe Designs Ltd.  
of 125 Clydesdale Place, Moss Side Industrial Estate, Leyland,  
Lancashire, PR26 7QS, UK.

*in accordance with the following Directive(s):*

98/37/EC The Machinery Directive

*hereby declare that:*

Equipment	Trakrat Link Trolley (LT 1500 A)
Model number	DK-1500-A
Serial Number	DK-4001 to DK-6000
	BY-8001 to BY-14000

*is in conformity with the applicable requirements of the following documents*

Ref. No.	Title	Edition/date
BS EN ISO 12100-2	Safety of machinery. Basic concepts, general principles for design. Technical principles.	2003 + AMD 14975
BS EN 13977	Railway applications – Track – Safety requirements for portable machines and trolleys for construction and maintenance	2005
RE/STD/039 Part7	Brake system requirements – category VII vehicles – minimum requirements	Issue B

I hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The unit complies with all applicable Essential Requirements of the Directive(s).

Signed by: .....

A handwritten signature in black ink, appearing to read 'A. Pugh'.

Name: A. Pugh  
Position: Director  
Done at Leyland  
On 10 October 2007

**CE07**

Document ref. No.

Wolfe Designs Limited, 125 Clydesdale Place,  
Moss Side Industrial Estate, Leyland, LANCS PR26 7QS UK  
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